

Project:Kootowis Creek Riparian Restoration

Enhancement of Riparian Forests in the Kootowis Creek Watershed

FRBC Region

Pacific

Author

V.A. Poulin, R.P.Bio.

Warren Warttig, R.P.Bio

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Proponents and partners

Steelhead Society, Habitat Restoration Corp.

Central Westcoast Forestry Society

BC Ministry of Environment, Lands and Parks

BC Ministry of Forests

Interfor

V.A. Poulin & Associates Ltd.

Quillicum Forestry Services Ltd.

T.K. Brown, Consulting

Funding Groups

Steelhead Society, Habitat Restoration Corporation
(Forest Renewal BC)\$ 35,000

Regional Aquatic Management Society (Fisheries
Renewal BC) \$17,400

Forest Renewal BC thru Interfor \$ 29,782.00

Location

The project is part of the Kennedy Flats Watershed Restoration Program (KWRP) in Clayoquot Sound on the West Coast of Vancouver Island approximately 90 km southwest of Port Alberni and midway between Tofino and Ucluelet (Poulin and Simmons 1999). This watershed is management unit 249, and is classified as a “target watershed”. Kennedy Flats borders Pacific Rim National Park northwest of Long Beach.

Restoration Undertaken

Three stand conditions were addressed. All were limiting the recovery of riparian attributes needed for restoration of fish habitat, water quality, channel stability, wildlife, and biodiversity. These included: 1. sites where brush competition has resulted in low conifer stocking; 2. overstocked western red cedar plantations that lacked species diversity; and, 3. overstocked conifer plantations with closed canopies and consisting of predominantly “off-site” Douglas fir. Prescriptions were aimed at:

- altering current stand densities and species compositions by hand falling and spacing of retained trees.
- releasing conifers in brush dominated areas by removing competing shrubs.
- planting rapidly growing Black Cottonwood trees along shade deficient areas of Kootowis Creek.
- restoring wildlife habitats associated with old forest characteristics by girdling, topping, and top-girdling trees; and recreating cavities and slots in trees for use by birds, bats and mammals.

Site characteristics

- Kootowis Creek drains the Kennedy Flats east of Pacific Rim National Park. The creek is low gradient (0.5%-1.0%) and flows over even terrain. It has a meandering pattern that drains vegetated lowlands and swamps. Fish species present include Coho, Chum, and Pink salmon, Cutthroat (sea run and resident) and Steelhead trout.
- the riparian forest is situated in the Coastal Western Hemlock (CWH) *southern* very wet hypermaritime variant (vh1) ecosystem.
- riparian areas along the Kootowis Creek were logged as recently as the 1980s. A significant amount of logging took place in the 1970's with stands of 30-year old Douglas fir comprising large contiguous blocks of dense second-growth forest.

These stands are 22-30 m in height, have closed canopies and consist of nearly pure “off-site” Douglas Fir. Elsewhere vast openings occur throughout the flats that are dominated by willow and other shrubs. Conifer densities in these are low, but generally adequate for future riparian needs.

Operating procedures

- a stand management prescription was required from the MOF for approval to modify and cut trees within the riparian reserve zone.
- field work was completed between November 26 and December 20, 2000.
- pre-work and monitoring was conducted through Interfor’s ISO 14001 environmental management program.
- the field team consisted of two supervisors and a 12-person crew.
- 74.0 ha were approved for treatment and mapped into riparian vegetation types (RVT’s) according to the following classification:

RVT 1: understocked conifer site dominated by brush

RVT 2: overstocked conifer stand

RVT 3: deciduous-dominated stand with a suppressed understory of conifer

RVT 4: deciduous-dominated stand with nil to a sparse understory of conifers

RVT 5: old forest or young stand where silvicultural intervention is not required to achieve the desired future condition

Note: old forests are used to indicate the pre-harvest conditions and provide ecological templates for restoration (Poulin et al. 2000).

Production/treatment results

- project was only partially funded. Treatments were completed in representative stand types to illustrate the range of prescriptions to be undertaken in the overall project once full funding is secured.
- 6 treatment areas (polygons) were fully or partially completed during this phase of the project.
- 20.4 ha were brushed and spaced.
- 160 cottonwood whips were planted.

- 3-days of climbing and specialised habitat restoration training was provided to a team of 6 men.
- 2-additional days of training dedicated to climber rescue and rappelling was provided.
- a 0.5 ha demonstration site was established with 42 ecological features completed including topped and topped-girdled trees, trees and stumps modified for use by bats, birds and various mammals.

References

V.A. Poulin and B. Simmons. 1999. *Riparian Assessment: Kootowis Creek Recommended Preliminary Riparian Restoration Plan*. Professional Report prepared by V.A. Poulin & Associates Ltd. and Quillicum Forestry Services Ltd., 1999, for International Forest Products Ltd., Campbell River, BC. 46 p.

Poulin V.A., C.Harris and B. Simmons. 2000 *Riparian Restoration in British Columbia: What’s happening now, what’s needed for the future*. Report prepared for BC Ministry of Forest, Watershed Restoration Program, Victoria, BC. 78 p.

For further information, contact:

Warren Warttig, RPBio, Interfor, P.O. Box 36, Campbell River, BC, V9W 4Z9. Tel.: (250) 286-4547, Email:

Warren.Warttig@interfor.com

Jesse Brown, RPBio, Steelhead Society of British Columbia, Habitat Restoration Corp. #103-131 Water Street, Vancouver, BC, V6B 4M3. Tel (604) 684-6272 ext. 110, Email: jbrown@steelheadsociety.com

Len Dziama, Central Westcoast Forest Society, Box 405, #6 Davison Plaza, Ucluelet B.C., V0R 3A0. Tel (250) 726-2424, Email: cwfs@cedar.alberni.net

Vincent Poulin, V.A. Poulin & Associates Ltd., 2153 West 46th Avenue, Vancouver, BC, V6M 2L2. Tel.: (604) 263-0424, Email: vpoulin@telus.net



RVT 1, prior to restoration